Dart Aerospace Ltd.

Date: Tuesday, 7/1/2008 10:47:02 AM
User: Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: BRACKET ASSEMBLY
Job Number	: 40158		
Estimate Number	: 10291		
P.O. Number	:	Part Number	: D3183044
This Issue	: 7/1/2008 S.O. No. :	Drawing Number	: D3183 REV C1
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: / / Type : MACHINED PARTS	Drawing Revision	: C1
Previous Run	: 39924	Material	:
Written By	:	Due Date	: 7/22/2008 Qty: 6 Um: Each
Checked & Approved By	: 08.07.01		
Comment	: Est Rev:Pick:A 04.02.18 New issue KJ/DS		
	Est Rev:B Changed Mat Size 08-06-26 JLM	Verified By:EC	

Additional Product

Job Number:

Seq. #:	Machine Or Operation:	Description :
1.0	M174B1500X02250	17-4 SS Bar 1.5"X2.250"

Comment: Qty.: 0.4812 f(s)/Unit Total : 2.8873 f(s)
Material: 17-4 SS Bar per AMS 5604/5643
(M17-4-B1.500x02.250
Identify for D3183-4
Batch: M108309 DJP 08/07/10 (6)

2.0	BAND SAW	BAND SAW

Comment: BAND SAW
Cutblanks: (1.500" x 2.000") 5.500" long DJP 08/07/10 (6)

3.0	HAAS1	HAAS CNC VERTICAL MACHINING #1

Comment: HAAS CNC VERTICAL MACHINING #1

1-Machine D3183-4 as per Folio FA322 and Dwg D3183
Identify as D3183-4

2-Deburr SP 08/07/17

3-Scribe batch number DJP 08/07/16

4.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE

Comment: INSPECT PARTS AS THEY COME OFF MACHINE DJP 08/07/16 / SP 08/07/17

Form: rprocess

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

QA: N/C Closed: _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Date: Tuesday, 7/1/2008 10:47:02 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services **Drawing Name:** BRACKET ASSEMBLY

Job Number: 40158 **Part Number:** D3183044

Job Number:

Seq. #:	Machine Or Operation:	Description :
5.0	QC8	SECOND CHECK

Comment: SECOND CHECK J.F. 08/07/18 (6)

6.0	D312121	Bolt

Comment: Qty.: 2.0000 Each(s)/Unit Total : 12.0000 Each(s)
Pick:
Qty Part Number Description Batch
2 D3121-21 Bolt 39647

7.0	D3183045	Bearing Assembly

Comment: Qty.: 2.0000 Each(s)/Unit Total : 12.0000 Each(s)
Pick:
Qty Part Number Description Batch
2 D3183-045 Bearing Ass 40159 8/8/7 (6)

8.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1

Comment: SMALL & MEDIUM FAB RESOURCE 1
Assemble D3183-043 as per Dwg D3183. 08/08/07 (6)

9.0	QC5	INSPECT WORK TO CURRENT STEP

Comment: INSPECT WORK TO CURRENT STEP 08/08/07 (6)

10.0	PACKAGING 1	PACKAGING RESOURCE #1

Comment: PACKAGING RESOURCE #1
Identify and Stock
Location: 2334 8/8/7 SQ (6)

11.0	QC21	FINAL INSPECTION/W/O RELEASE

Comment: FINAL INSPECTION/W/O RELEASE 08/08/08 (6)
MF 08-08-08

Job Completion

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

QA: N/C Closed: _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	40158
Description: Bracket	Part Number:	D3183-4
Inspection Dwg: D3183 Rev: C1		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

[X] First Article [ ] Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
R0.190	+/-0.030	.190	✓			
R0.063	+/-0.010	.063	✓			
0.188	+/-0.010	N/A	✓			
0.070	+/-0.010	.071	✓			
0.100	+/-0.010	.100	✓			
Ø0.201 x 0.100	+/-0.010	.203x102	✓			
0.183	+/-0.010	.187	✓			
5.32	+/-0.030	5.330	✓			
5.036	+/-0.010	5.037	✓			
2.120	+/-0.010	2.125	✓			
1.290	+/-0.010	1.291	✓			
0.365	+/-0.010	.366	✓			
0.218	+/-0.010	.211	✓			
1.030	+/-0.010	1.031	✓			
1.90	+/-0.030	1.889	✓			
1.012	+/-0.010	1.017	✓			
Ø0.201 x 0.100	+/-0.010	.205 x .103	✓			
0.786	+/-0.010	.792	✓			
Ø0.392	+0.002/-0.000	.393	✓			
R0.19	+/-0.030	.190	✓			
3.954	+/-0.010	3.954	✓			
0.162	+/-0.010	.160	✓			
R0.19	+/-0.030	.187	✓			
R0.25	+/-0.030	.250	✓			
4.26	+/-0.030	4.26	✓			
2.800 Calculated dimension	+/-0.030	2.801	✓			
0.162	+/-0.010	.164	✓			
0.615	+/-0.010	.612	✓			
0.435	+/-0.010	.434	✓			
0.200	+/-0.010	.207	✓			
0.381	+/-0.010	.382	✓			
0.032	+/-0.010	.034	✓			

Measured by:	[illegible]
Date:	08/07/17

Audited by:	J.F.
Date:	08/07/18

Prototype Approval:	N/A
Date:	N/A

Rev	Date	Change	Revised by	Approved
A	03.11.12	New Issue P/O D3183-044	KJ/RF	
B	04.03.15	Changes as per revision C	KJ/JLM/RF	
C	04.06.15	Dimension 2.800 was 2.080; removed 1.155, 0.36 dimensions	KJ/JLM	
D	06.03.09	Dwg Rev update	KJ/JLM	
E	08.01.16	Dimensions revised	KJ/EC/DD	

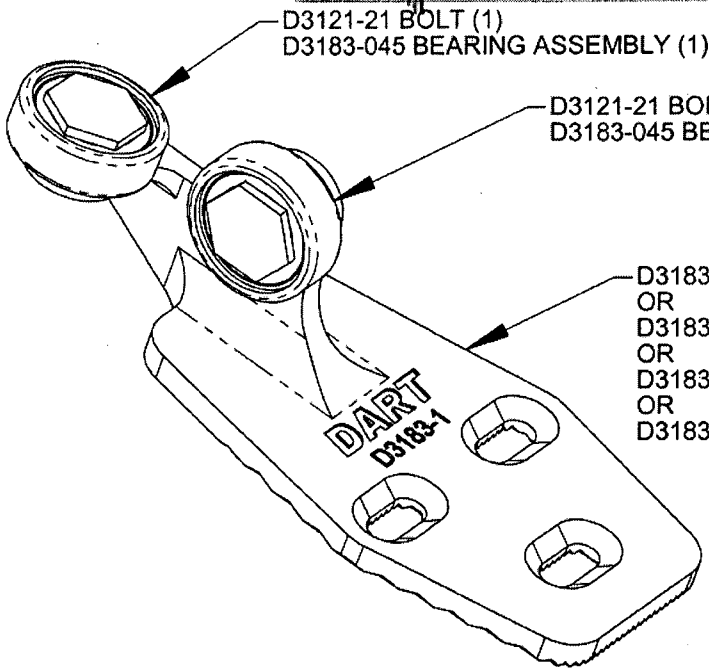
DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO. D3183 REV. C SHEET 1 OF 4
DATE 04.02.17		TITLE BRACKET ASSEMBLY SCALE 1:1

DART

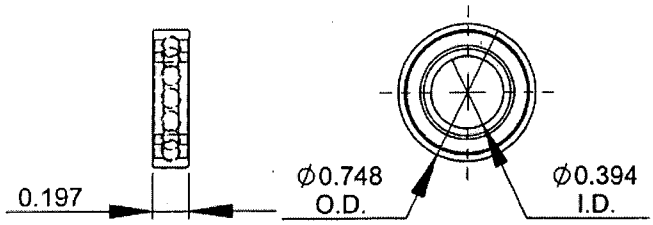
COPY ISSUED

RELEASED
04.03.01

A	03.01.24	NEW ISSUE
B	03.06.17	REMOVE BEARING; 1.012 WS 0.882
C	04.02.17	ADD -045/-9; 0.182 WAS 0.431
C1	04.11.09	0.830 WAS 0.850



D3183-041 BRACKET ASSEMBLY (SHOWN)
D3183-042 BRACKET ASSEMBLY (OPPOSITE)
D3183-043 BRACKET ASSEMBLY (SIMILAR)
D3183-044 BRACKET ASSEMBLY (SIMILAR)



D3183-5 BEARING: SPECIFICATION CONTROL DRAWING

1) SINGLE ROW, DEEP GROOVE, CONRAD TYPE, SHIELDED
2) POSSIBLE SUPPLIER: NSK P/N 680022
3) ALL DIMENSIONS ARE IN INCHES

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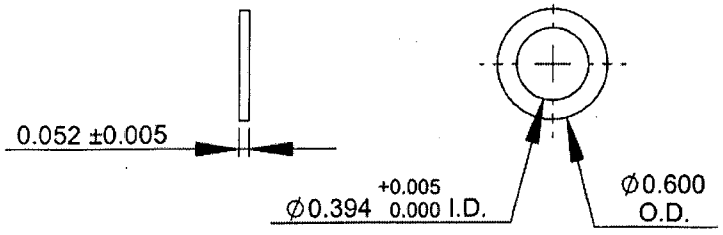
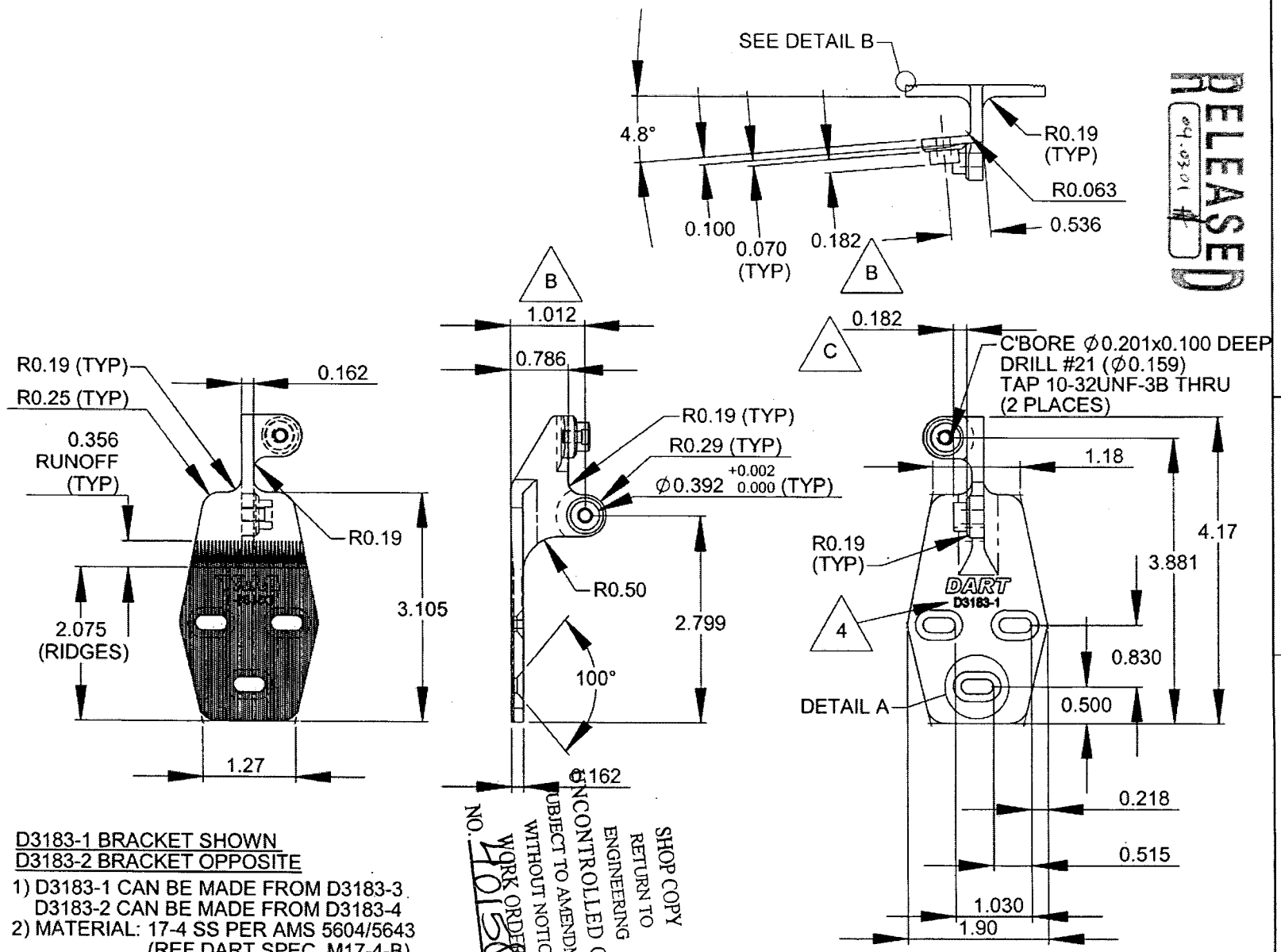
WORK ORDER NO. 40158



D3183-7 WASHER

1) MATERIAL: AISI 303 ROUND BAR (M303R) ANNEALED
2) BREAK ALL SHARP EDGES 0.005 TO 0.010
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES



RELEASED
04.03.01

D3183-1 BRACKET SHOWN
D3183-2 BRACKET OPPOSITE

1) D3183-1 CAN BE MADE FROM D3183-3
   D3183-2 CAN BE MADE FROM D3183-4
2) MATERIAL: 17-4 SS PER AMS 5604/5643
   (REF DART SPEC. M17-4-B)
   MIN ULTIMATE STRENGTH = 150 ksi
   MIN YIELD STRENGTH = 100 ksi
3) BREAK ALL SHARP EDGES 0.005 TO 0.015
4) ENGRAVE DART P/N & LOGO AS SHOWN
5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
6) ALL DIMENSIONS ARE IN INCHES

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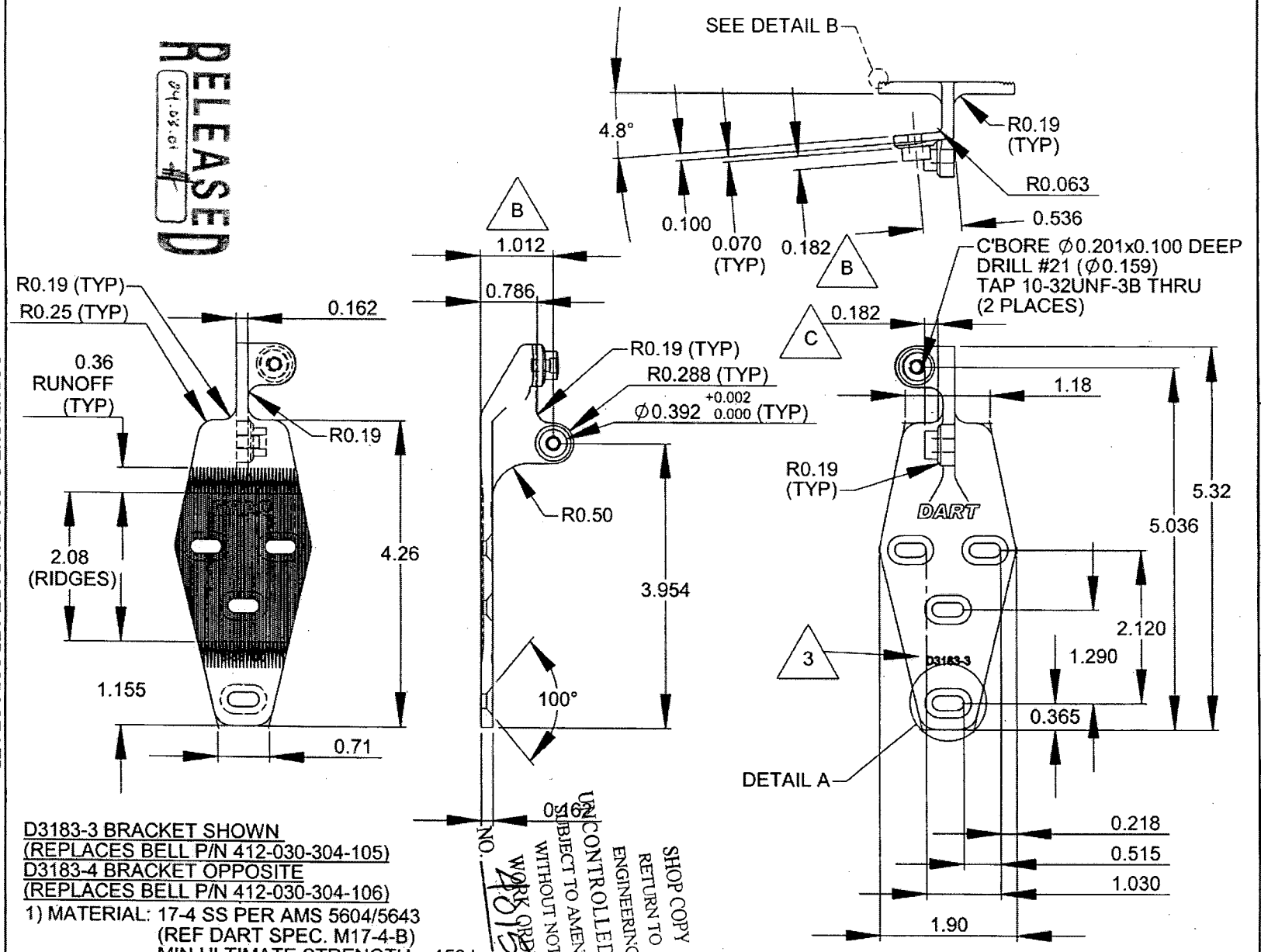
DATE 04.02.17	DRAWING NO. D3183	REV. C	SHEET 2 OF 4
TITLE BRACKET ASSEMBLY		SCALE 1:2	



D3183-3 BRACKET SHOWN
(REPLACES BELL P/N 412-030-304-105)
D3183-4 BRACKET OPPOSITE
(REPLACES BELL P/N 412-030-304-106)

1) MATERIAL: 17-4 SS PER AMS 5604/5643
(REF DART SPEC. M17-4-B)
MIN ULTIMATE STRENGTH = 150 ksi
MIN YIELD STRENGTH = 100 ksi
2) BREAK ALL SHARP EDGES 0.005 TO 0.015
3) ENGRAVE DART P/N & LOGO AS SHOWN
4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
5) ALL DIMENSIONS ARE IN INCHES

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CHECKED	APPROVED	DRAWING NO. D3183	REV. C SHEET 3 OF 4
DATE 04.02.17		TITLE BRACKET ASSEMBLY	SCALE 1:2

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
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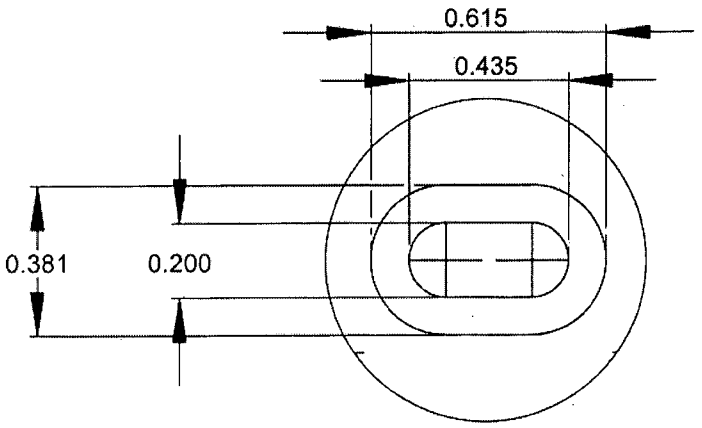
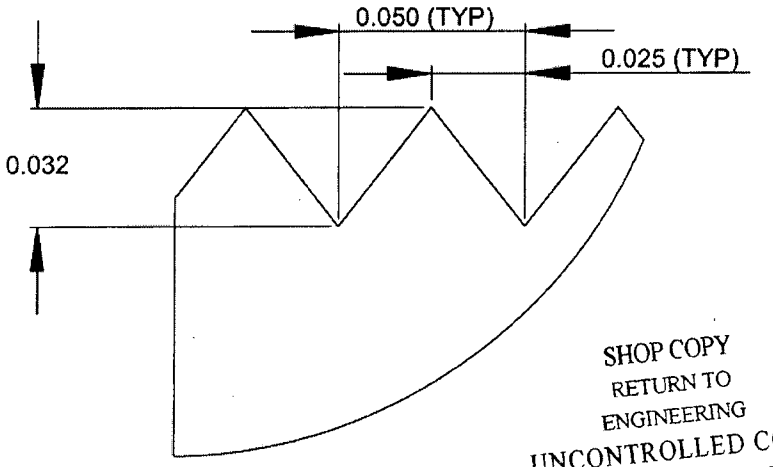
DATE 04.02.17		TITLE BRACKET ASSEMBLY	SCALE 1:1



DETAIL A (2 : 1)

RELEASED
04.03.01



DETAIL B (20 : 1)

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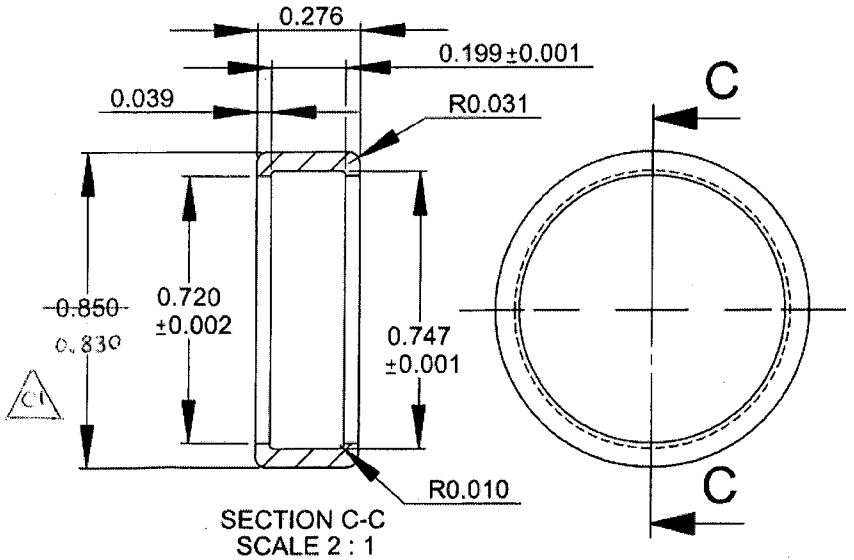
WORK ORDER
NO. 40158



SECTION C-C
SCALE 2 : 1

D3183-9 CAP

1) MATERIAL: DELRIN ROD, Ø1.00
(REF DART SPEC. M-DELRIN-R1.00)
2) TOLERANCES ARE PER DART QSI 018
UNLESS OTHERWISE NOTED
3) ALL DIMENSIONS ARE IN INCHES

D3183-045 BEARING ASSEMBLY

1) ASSEMBLE D3183-5 BEARING AND
D3183-9 CAP